

**WHAT IS CLAIMED IS:**

1. A deflection yoke for a cathode ray tube including a ferrite core having a funnel-shaped body , an inner surface, and an outer surface, the inner surface of a cross section of the ferrite core comprising:

5           a first section having, along a length thereon, the shape of a circle with a predetermined, unvarying radius;

          a second section having, along a length thereon, the shape of a circle with a varying radius, the second section being connected to the first section; and

10           a third section having a non-circular shape and being connected to the second section.

2. The deflection yoke of claim 1, wherein the third section of the inner surface has the shape of interconnected segments of three circles, each of a different radius.

15           3. The deflection yoke of claim 2, wherein each said different radius of the third section increases from one end of the third section connected to the second section to an opposite end

20           4. The deflection yoke of claim 1, wherein the third section of the inner surface has the shape of a segment of a circle and two substantially straight lines.

5. The deflection yoke of claim 1, wherein the third section has the shape of interconnected segments of three circles and two substantially straight lines.

6. The deflection yoke of claim 1, wherein the first and second sections

have rougher surface than surface of the third section.

7. The deflection yoke of claim 1, further comprising a horizontal deflection coil, a vertical deflection coil, and an insulating member interposed between the horizontal and the vertical deflection coils.

5           8. The deflection yoke of claim 6, wherein the horizontal and the vertical deflection coils have a shape similar to a shape of the insulating member.

9. The deflection yoke of claim 6, wherein the horizontal and the vertical deflection coils include a pair of coil members.

10           10. A deflection yoke for a cathode ray tube including a ferrite core having a funnel-shaped body, an inner surface and an outer surface, the inner surface of the ferrite core comprising:

            a first section formed as having, along a length thereon, the shape of a circle with a varying radius; and

15           a second section having a non-circular shape and being connected to the first section.

11. The deflection yoke of claim 10, wherein the second section of the inner surface has the shape of interconnected segments three circles, each of a different radius.

20           12. The deflection yoke of claim 10, wherein the second section of the inner surface has the shape of a segment of a circle and two substantially straight lines.

13. The deflection yoke of claim 10, wherein the second section of the inner surface has the shape of interconnected segments of three circles and two substantially straight lines.

14. The deflection yoke of claim 10, wherein the first section has rougher surface than surface of the second section.

15. The deflection yoke of claim 10, further comprising a horizontal deflection coil, a vertical deflection coil, and an insulating member interposed  
5 between the horizontal and the vertical deflection coils.

16. The deflection yoke of claim 15, wherein the horizontal and the vertical deflection coils have a shape similar to a shape of the insulating member.

17. The deflection yoke of claim 15, wherein the horizontal and the  
10 vertical deflection coils include a pair of coil members.

18. A cathode ray tube comprising:

a substantially rectangular panel;

a funnel connected to the panel and having a cone shape;

a neck connected to the funnel;

15 a deflection yoke mounted to an outer circumference of the funnel; and

a ferrite coil mounted to a side of the deflection yoke, wherein the ferrite core includes a body having an inner surface and an outer surface, the inner surface comprising:

a first section having, along a length thereon, the shape of a circle with  
20 a predetermined, unvarying radius;

a second section having, along a length thereon, the shape of a circle with a varying radius, the second section being connected to the first section; and

a third section having a non-circular shape and being connected to the

second section.

19. The cathode ray tube of claim 18, wherein the third section of the inner surface has the shape of interconnected segments of three circles, each of a different radius.

5           20. The cathode ray tube of claim 18, wherein the third section of the inner surface has the shape of a segment of a circle and two substantially straight lines.